

REMARKS

Claims 1-14 are pending in this application. Claims 15-31 are withdrawn. Claims 32-38 have been added. Claims 1-6 and 13 have been amended. Support for the amendment can be found at least on pages 1, 11 and 12, and in FIG. 5 of the application.

1. Claim rejections

Claims 1-4 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,633,451 to Ahn et al. ("Ahn"). The applicant respectfully traverses.

Claim 1, as amended, recites a lensless optical servo system that includes a plurality of geometric pattern filters to filter light reflected from a rotating disk, where each of the geometric pattern filters specifies a corresponding periodic spatial pattern to filter the reflected light. At least two of the geometric pattern filters specify corresponding periodic spatial patterns that are out of phase relative to each other.

Ahn discloses positioning a read/write head over a rotating disk encoded with markings that include low and high reflectivity areas (FIGS. 6.1-6.3). The markings reflect light from a laser diode 21. The intensity of the reflected light is modulated in time (FIG. 10.2) with a lower or higher fundamental frequency if the head is off track or on track, respectively. The modulations of the reflected light are converted into an electronic signal by measuring voltage of the laser diode 21 (FIG. 5.1) or using a detector diode 41 (FIG. 15).

Although Ahn discloses that the higher fundamental frequency is filtered out from the electronic signal by an electronic low frequency pass filter 35, it fails to disclose or suggest a plurality of geometric pattern filters to filter light reflected from the rotating disk, where each of the geometric pattern filters specifies a corresponding spatial pattern to filter the reflected light, as recited in the claim. Lacking geometric filters to filter light, neither can Ahn disclose that at least two of the geometric pattern filters specify corresponding spatial patterns that are out of phase relative to each other. Therefore, claim 1 is allowable. Claims 2-4 are dependent claims depending from claim 1, and are allowable for at least the same reasons.

2. New claims

Claims 32-34 are dependent claims depending from claim 1, and are allowable for at least the same reasons.

Claims 35 and 37 recite a disk drive system and a lensless optical system including a plurality of geometric pattern filters to filter light reflected from the rotating disk. As discussed above with reference to claim 1, Ahn fails to disclose these limitations. Therefore claims 35 and 37 are allowable. Claims 36 and 38 are dependent claims and are allowable for at least the same reasons as their corresponding base claims.

3. Claim objections

Claims 5-14 are objected to as being dependent upon rejected base claim 1. Claims 5 and 6 have been amended to recite all limitations of claim 1. Thus claims 5 and 6 are allowable. Claims 7-14 are dependent claims depending from claim 5, and are allowable for at least the same reasons.

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Enclosed is a check in the amount of \$352.00 which includes the fee for additional claims and the late submission of an Information Disclosure Statement under §1.17(p). Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 2/24/2004



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